

***Baeckea tuberculata* Trudgen, a new species of Myrtaceae
(Leptospermeae, Baeckeinae) from South Australia**

Malcolm E. Trudgen

113 Park Street, Subiaco, Western Australia 6008

Abstract

Trudgen, Malcolm E. *Baeckea tuberculata* Trudgen, a new species of Myrtaceae (Leptospermeae, Baeckeinae) from South Australia. Nuytsia 5(3): 441-444 (1986). *Baeckea tuberculata* is described to facilitate its inclusion in the forthcoming edition of the Flora of South Australia. It is a poorly known but distinctive species from the north-west of South Australia, with its morphology typical of section *Babingtonia*.

Introduction

Baeckea tuberculata has been known for some years, but only from poor material, it has not previously been described because of this and because of a reluctance to describe species in isolation. However, it would be unfortunate if the species were not described prior to the publication of the new edition of the Flora of South Australia, which should appear in 1986. It is related to those species placed in section *Babingtonia* and, except for the prominent, tuberculate oil glands on the hypanthium, calyx-lobes, leaves, branchlets and bracteoles, its morphology is quite typical of that section.

The system of subdivision of the Myrtaceae used by Bentham (1867) is used here simply for convenience, the recent system of Briggs and Johnson (1979), is not used because it has only been proposed informally.

***Baeckea tuberculata* Trudgen, sp. nov.**

Frutex; ramuli, hypanthium, bracteoli et folia glandibus oleacis prominenti. Folia opposita, linearia vel oblonga, 1.9-3.1 mm longa, 0.5-0.9 mm lata, semiteretia; petioli c. 0.3 mm longi. Flores per ramulosum 1-4, solitarii in axilla foliorum superiorum positi, 5-meri; anthopodia c. 0.5 mm longa, bracteoliis paribus subtenua; pedunculi c. 1.2 mm longi; bracteolae angustissime cymbiformes. Hypanthium hemisphaericum, c. 4.2 mm diam., glandibus oleacis tuberculatis dense obtectum; calycis lobi crecti, deltoidei. Corolla c. 6-7 mm diam. Stamina c. 21, quaternae quinaque aggregata ante lobos calycis positae; filamenta geniculata, teretia, c. 0.5-0.9 mm longa; antherarum loculi connati, in rimis divergentibus dehiscentes; glans coniectivi ad filamentum partem superiorem connata, in poro inter antheras dehiscens. Ovarium 2-3-loculare, hypanthio omnino connatum; stylus teres; stigma capitatum; placentatio axialis. Placentatae conicae, tantum in centro ad axim affixae, nec stipitatae; ovula in quoque loculo 6-7. Fructus ante dehiscentem: hypanthium hemisphaericum; capsula e hypanthio protrudens. Fructus post dehiscentem: hypanthium patelliforme vel hemisphaericum; capsula valvae osseae haud divergentes. Semina dorsis rotundatis latis planis; hilum parvum; testa crustacea crassa, pallide brunnea, laevis; ovula abortiva in ovulodiu evolventes isdem semina in forma coloraque; embryo semen complens; cotyledones parvulae.

Typus: Dingo Claypan to Tallaringa road, South Australia, 6 July 1967, *W.S. Reid* s.n. (holo: ADW; iso: CANB).

Woody shrub. *Upper branchlets* white and with tuberculate oil glands, lower branchlets light brown, larger branches grey. *Leaves* opposite, appressed and not overlapping to slightly spreading and overlapping next pair for half their length, or rarely crowded, straight or slightly incurved; lamina linear to oblong, 1.9-3.1 mm long, 0.5-0.9 mm wide, semiterete, tip recurved with a small point; oil glands on abaxial surface tuberculate, prominent, absent from or only on tip of adaxial surface; petiole c. 0.3 mm long. *Flowers* 5-merous, solitary in axils of upper leaves, 1-4 on a branchlet; anthopodia c. 0.5 mm long, subtended by a pair of bractcoles; *peduncles* c. 1.2 mm long; *bracteoles* very narrowly cymbiform, c. 1.8 mm long, with small recurved points and tuberculate oil glands. *Hypanthium* hemispherical, c. 4.2 mm diameter, densely covered with tuberculate oil glands; *calyx lobes* erect, deltoid, c. 1 mm long, with tuberculate oil glands. *Corolla* c. 6-7 mm diameter; petals suborbicular, c. 2-2.5 mm diameter. *Stamens* c. 21, in groups opposite the calyx lobes, those near the insertion of the petals with longer filaments and shortly exceeding the calyx lobes; filaments geniculate, terete, c. 0.5-0.9 mm long; anther loculi fused, facing downwards, opening in divergent slits; connective gland fused to upper part of the filament and opening in a pore between the loculi. *Ovary* 2- or less commonly 3-locular, completely fused to hypanthium; style terete; stigma capitate. *Placentation* axile; placentas conical, c. 0.5 mm diameter, attached to axis only in centre, but not stalked. *Ovules* 6-7 per loculus, arranged radially around placenta, outer surface convex, sides flat, inner edge angled. *Undehisced fruit*: hypanthium hemispherical, c. 5.5 mm diameter, thickened and hardened but not woody, surface tuberculate; calyx lobes persistent, but dry and shrunken; $1/4-1/2$ capsule protruding from hypanthium. *Dehisced fruit*: hypanthium saucer shaped to hemispherical; capsule valves bony, not opening very widely. *Seeds* varying in shape, backs rounded, sides flat and converging to angled inner edge; hilum small; testa crustaceous, thick, light brown to red-brown, smooth; aborted ovules developing into ovulodes with the same shape and colour as the seeds; embryo filling seed, separated from testa by a fine membrane; cotyledons very small. Figure 1.

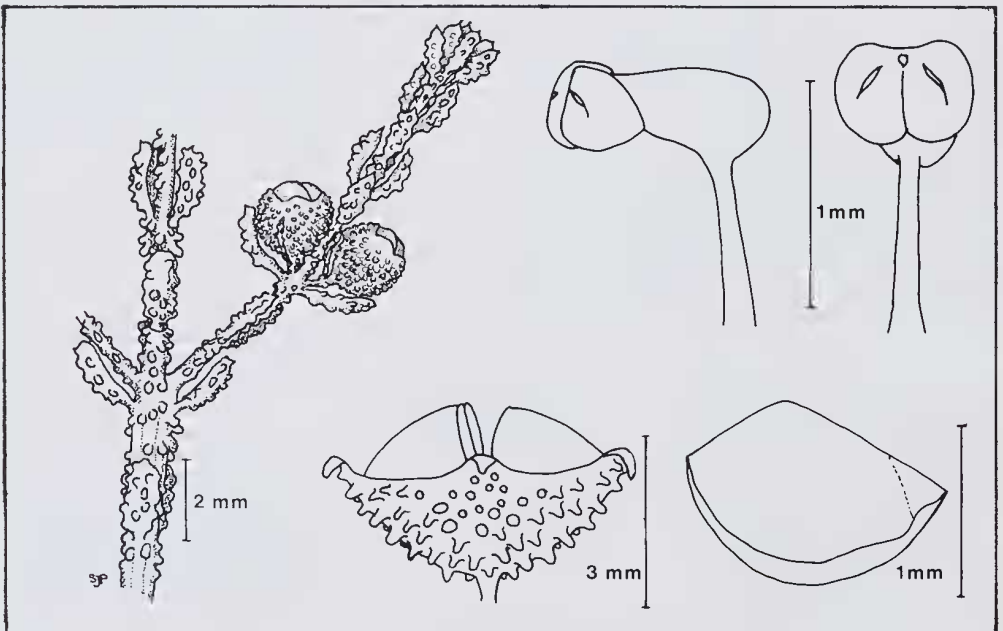


Figure 1. *Baeckea tuberculata*. A. Branchlet with buds. B. Stamen from side. C. Stamen from front. D. Fruit from the side. E. Seed from the side. All from the type.

Specimens examined. SOUTH AUSTRALIA: c. 45 km west of Tallaringa Well (which is c. 140 km west of Coober Pedy), *T. R. N. Lothian* 2754 (AD); c. 45 km west of Tallaringa Well (which is c. 140 km west of Coober Pedy), *T. R. N. Lothian* 2759 (AD); Spanners Highway N of Emu, $\pm 132^\circ$ E 28° S, *W. S. Reid* ADW33509 (ADW); c. 5 km south-east of Tallaringa Well (Tallaringa Well, c. 140 km west of Coober Pedy), *T. R. N. Lothian* 2726 (ADW, MEL, SYD).

Distribution. Known only from the Great Victoria desert in the north-west of South Australia. Figure 2.

Habitat. The only habitat information on herbarium sheets is that the species grows on red sand dunes, apparently with *Thryptomene maisonneuvei* F. Muell.

Flowering period. The type, which is in late bud, is the only flowering material known and was collected in early July. As the species is found in quite arid areas flowering may depend on the amount of rainfall in a given year as well as the season.

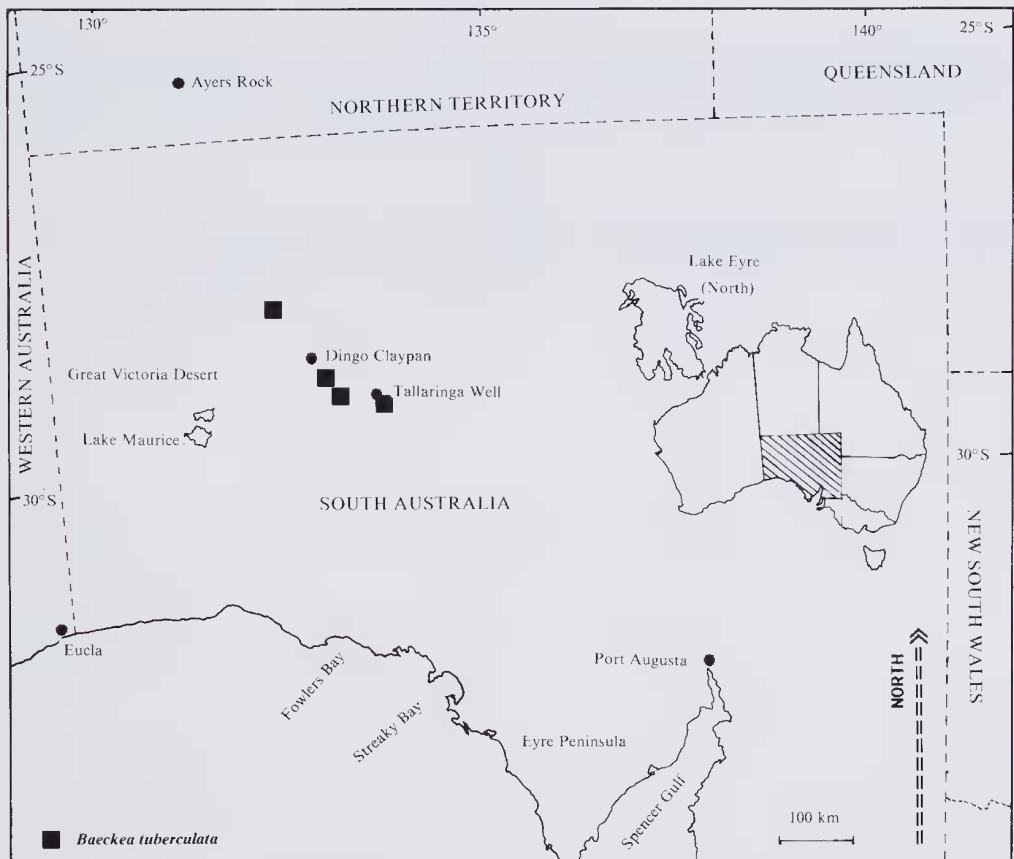


Figure 2. Distribution of *Baeckea tuberculata*.

Affinities. The closest species to *Baeckea tuberculata* is probably *Baeckea ochropetala* F. Muell., which is found in parts of the goldfields area of Western Australia (Comet Vale-Coolgardie-Peak Charles-Queen Victoria Rocks). It has similar leaves but with oil glands that while easily visible to the naked eye are not tuberculate, larger flowers (to 16 mm

diameter) with longer antheridia (0.5-1.2 mm) and peduncles (2.5-5.5 mm), calyx lobes which are horned, and fruit which are woody.

Comments. As *Baeckea tuberculata* is only known from a few specimens, only one of which is in flower, some caution should be used when comparing specimens to the description given, in case specimens turn up which significantly extend the known variation of the characters described. In particular the diameter of the flower could be somewhat larger on better material.

In the specimens of *Baeckea tuberculata* seen the oil glands have been consistently tuberculate, that is they are "wart like projections" (Stearn 1973) from the various organs that they occur on; this a distinct contrast to the more common spherical or subspherical oil glands as developed on *Baeckea ochropetala*. As no other species of *Baeckea* has such obviously tuberculate oil glands, this character is diagnostic for *Baeckea tuberculata*.

Acknowledgements

The Latin description was kindly prepared by Mr Paul Wilson. Specimens were loaned by the curators of AD, ADW and CANB, facilities for studying the specimens were made available by the curator of the Western Australian Herbarium, S. Patrick kindly drew Figure 1A and financial support was given by the Australian Biological Resources Study.

References

- Bentham, G. (1867). "Flora Australiensis" vol. 3. (Reeve: London.)
Briggs, B.G. and Johnson, L.A.S. (1979). Evolution in the Myrtaceae- evidence from inflorescence structure. Proc. Linn. Soc. New South Wales 102: 157-256.
Stearn, W.T. (1973). "Botanical Latin". Second edition. David and Charles, Newton Abbot, Devon.